



Rocky Enterprise Linux 9.2 Manual Pages on command 'mkfs.fat.8'

C:\>man mkfs.fat.8

MKFS.FAT(8) System Manager's Manual MKFS.FAT(8)

NAME

mkfs.fat - create an MS-DOS filesystem under Linux

SYNOPSIS

mkfs.fat [OPTIONS] DEVICE [BLOCK-COUNT]

DESCRIPTION

mkfs.fat is used to create an MS-DOS filesystem under Linux on a device (usually a disk partition). DEVICE is the special file corresponding to the device (e.g. /dev/sdXX). BLOCK-COUNT is the number of blocks on the device. If omitted, mkfs.fat automatically determines the filesystem size.

OPTIONS

- a Normally, for any filesystem except very small ones, mkfs.fat will align all the data structures to cluster size, to make sure that as long as the partition is properly aligned, so will all the data structures in the filesystem. This option disables alignment; this may provide a handful of additional clusters of storage at the expense of a significant performance degradation on RAIDs, flash media or large-sector hard disks.
- A Use Atari variation of the MS-DOS filesystem. This is default if mkfs.fat is run on an Atari, then this option turns off Atari format. There are some differences when using Atari format: If not directed otherwise by the user, mkfs.fat will always use 2 sectors per cluster, since GEMDOS doesn't like other values very much. It will also obey the maximum number of sectors GEMDOS can

handle. Larger filesystems are managed by raising the logical sector size. Under Atari format, an Atari-compatible serial number for the filesystem is generated, and a 12 bit FAT is used only for filesystems that have one of the usual floppy sizes (720k, 1.2M, 1.44M, 2.88M), a 16 bit FAT otherwise. This can be overridden with the -F option. Some PC-specific boot sector fields aren't written, and a boot message (option -m) is ignored.

-b SECTOR-OF-BACKUP

Selects the location of the backup boot sector for FAT32. Default depends on number of reserved sectors, but usually is sector 6. The backup must be within the range of reserved sectors.

-c Check the device for bad blocks before creating the filesystem.

-C Create the file given as DEVICE on the command line, and write the to-be-created filesystem to it. This can be used to create the new filesystem in a file

instead of on a real device, and to avoid using dd in advance to create a file of appropriate size. With this option, the BLOCK-COUNT must be given, because otherwise the intended size of the filesystem wouldn't be known. The file created is a sparse file, which actually only contains the meta-data areas (boot

sector, FATs, and root directory). The data portions won't be stored on the disk, but the file nevertheless will have the correct size. The resulting file

can be copied later to a floppy disk or other device, or mounted through a loop device.

-D DRIVE-NUMBER

Specify the BIOS drive number to be stored in the FAT boot sector. This value is usually 0x80 for hard disks and 0x00 for floppy devices or partitions to be used for floppy emulation.

-f NUMBER-OF-FATS

Specify the number of file allocation tables in the filesystem. The default is 2.

-F FAT-SIZE

Specifies the type of file allocation tables used (12, 16 or 32 bit). If nothing is specified, mkfs.fat will automatically select between 12, 16 and 32 bit, whatever fits better for the filesystem size.

-h NUMBER-OF-HIDDEN-SECTORS

Select the number of hidden sectors in the volume. Apparently some digital cameras get indigestion if you feed them a CF card without such hidden sectors, this option allows you to satisfy them.

-i VOLUME-ID

Sets the volume ID of the newly created filesystem; VOLUME-ID is a 32-bit hexadecimal number (for example, 2e24ec82). The default is a number which depends on the filesystem creation time.

-l It is typical for fixed disk devices to be partitioned so, by default, you are not permitted to create a filesystem across the entire device. `mkfs.fat` will complain and tell you that it refuses to work. This is different when using MO disks. One doesn't always need partitions on MO disks. The filesystem can go directly to the whole disk. Under other OSes this is known as the 'superflop' format. This switch will force `mkfs.fat` to work properly.

-l FILENAME

Read the bad blocks list from FILENAME.

-m MESSAGE-FILE

Sets the message the user receives on attempts to boot this filesystem without having properly installed an operating system. The message file must not exceed 418 bytes once line feeds have been converted to carriage return-line feed combinations, and tabs have been expanded. If the filename is a hyphen (-), the text is taken from standard input.

-M FAT-MEDIA-TYPE

Specify the media type to be stored in the FAT boot sector. This value is usually 0xF8 for hard disks and is 0xF0 or a value from 0xF9 to 0xFF for floppies or partitions to be used for floppy emulation.

-n VOLUME-NAME

Sets the volume name (label) of the filesystem. The volume name can be up to 11 characters long. The default is no label.

-r ROOT-DIR-ENTRIES

Select the number of entries available in the root directory. The default is 112 or 224 for floppies and 512 for hard disks.

-R NUMBER-OF-RESERVED-SECTORS

Select the number of reserved sectors. With FAT32 format at least 2 reserved

sectors are needed, the default is 32. Otherwise the default is 1 (only the boot sector).

-s SECTORS-PER-CLUSTER

Specify the number of disk sectors per cluster. Must be a power of 2, i.e. 1, 2, 4, 8, ... 128.

-S LOGICAL-SECTOR-SIZE

Specify the number of bytes per logical sector. Must be a power of 2 and greater than or equal to 512, i.e. 512, 1024, 2048, 4096, 8192, 16384, or 32768. Values larger than 4096 are not conforming to the FAT file system specification and may not work everywhere.

-v Verbose execution.

--invariant

Use constants for normally randomly generated or time based data such as volume ID and creation time. Multiple runs of mkfs.fat on the same device create identical results with this option. Its main purpose is testing mkfs.fat.

--help

Display option summary and exit.

BUGS

mkfs.fat can not create boot-able filesystems. This isn't as easy as you might think at first glance for various reasons and has been discussed a lot already. mkfs.fat simply will not support it ;)

SEE ALSO

fatlabel(8)

fsck.fat(8)

HOMEPAGE

The home for the dosfstools project is its [GitHub project page](https://github.com/dosfstools/dosfstools?) [?https://github.com/dosfstools/dosfstools?](https://github.com/dosfstools/dosfstools?).

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